What is claimed is:

1. A medical probe assembly for ablating tissue, comprising:

an elongated shaft having a proximal end and a distal end;

an electrode array mechanically coupled to the distal end of the shaft, the electrode array comprising a plurality of needle electrodes, at least one of which is configured to assume an outwardly curved shape when exposed to a first temperature.

2. The medical probe assembly of claim 1, wherein the elongated shaft is rigid.

3. The medical probe assembly of claim 1, wherein the at least one needle electrode comprises Nitinol.

4. The medical probe assembly of claim 1, wherein the at least one needle electrode is bi-metallic.

5. The medical probe assembly of claim 1, wherein the first temperature is greater than body temperature.

6. The medical probe assembly of claim 1, wherein the first temperature is equal to a tissue ablation temperature.

7. The medical probe assembly of claim 1, wherein the at least one needle is configured to assume a substantially straight shape when exposed to a second temperature that is less than the first temperature.

8. The medical probe assembly of claim 7, wherein the second temperature is body temperature.

9. The medical probe assembly of claim 1, further comprising a deployment member mechanically coupled between electrode array and the shaft, the deployment member configured to linearly expand when exposed to a third temperature.

10. The medical probe assembly of claim 9, wherein the third temperature is the same as the first temperature.

11. The medical probe assembly of claim 9, wherein the third temperature is different from the first temperature.

12. The medical probe assembly of claim 9, wherein the deployment member comprises Nitinol.

13. The medical probe assembly of claim 9, wherein the deployment member comprises a spring.

14. The medical probe assembly of claim 1, further comprising a cannula having a lumen, wherein the shaft is reciprocatably disposed within the cannula lumen.

15. A medical probe assembly for ablating tissue, comprising:

an elongated shaft having a proximal end and a distal end;

an electrode array mechanically coupled to the distal end of the shaft, the electrode array configured to assume a outwardly curved shape when exposed to a first temperature, and assume a pointed tip when exposed to a second temperature less than the first temperature.

16. The medical probe assembly of claim 15, wherein the elongated shaft is rigid.

17. The medical probe assembly of claim 15, wherein the electrode array is configured to proximally evert when exposed to the first temperature.

18. The medical probe assembly of claim 15, wherein the electrode array comprises Nitinol.

19. The medical probe assembly of claim 15, wherein the electrode array is bi-metallic.

20. The medical probe assembly of claim 15, wherein the first temperature is equal to a tissue ablation temperature, and the second temperature is equal to body temperature.

21. The medical probe assembly of claim 15, further comprising a deployment member mechanically coupled between the electrode array and the shaft, the deployment member configured to linearly expand when exposed to a third temperature that is greater than the second temperature.

22. The medical probe assembly of claim 21, wherein the third temperature is the same as the first temperature.

23. The medical probe assembly of claim 21, wherein the third temperature is different from the first temperature.

24. The medical probe assembly of claim 21, wherein the deployment member comprises Nitinol.

25. The medical probe assembly of claim 21, wherein the deployment member comprises a spring.

26. The medical probe assembly of claim 15, further comprising a cannula having a lumen, wherein the shaft is reciprocatably disposed within the cannula lumen.

27. The medical probe assembly of claim 26, wherein the electrode array is configured to be at least partially retracted into the cannula by displacing the shaft relative to the cannula in a proximal direction.

28. A method of treating tissue having a diseased region, comprising:

forming a needle electrode array into a single pointed tip in response to a first temperature;

introducing the single pointed tip into the tissue adjacent the diseased region;

forming the electrode array into an outwardly curved array in response to a second temperature greater than the first temperature; and

conveying ablation energy to the electrode array to ablate the diseased region.

29. The method of claim 28, wherein the ablation energy produces the second temperature.

30. The method of claim 28, wherein the electrode array is formed into the outwardly curved array further in response to the displacement of the electrode array through the diseased region.

31. The method of claim 28, wherein the electrode array is displaced through the diseased region in response to a third temperature.

32. The method of claim 31, wherein the third temperature is the same as the second temperature.

33. The method of claim 31, wherein the third temperature is different from the second temperature.

34. The method of claim 28, further comprising forming the electrode array into a proximally everted array in response to the second temperature.

35. The method of claim 28, further comprising forming the needle electrode array into the single pointed tip again in response to the first temperature, and introducing the single pointed tip into another portion of the tissue.

36. The method of claim 28, wherein the diseased region is a tumor.